STS-104

NASA JSC STS104-S-002

Launch Date: *No earlier than June 20, 2001*

Launch Vehicle:
Atlantis

Crew:
Crew Commander: Steven W. Lindsey
Pilot: Charles O. Hobaugh
Mission Specialist 1: Michael L. Gernhardt
Mission Specialist 2: James F. Reilly
Mission Specialist 3: Janet L. Kavandi

Elements:
***Joint Airlock**, which provides station-based Extravehicular Activity (EVA), or spacewalking, capability for both U.S. and Russian spacesuits*

***High Pressure Gas Assembly** supports space walk operations and augments the Service Module gas resupply system*

Additional information:
Three EVAs are scheduled for the 10-day mission

INFO TO KNOW

Viewing Shuttle launches and landings

Visitors interested in viewing a shuttle launch at Kennedy Space Center (KSC) may inquire about such opportunities offered by Delaware North Park Services, Inc., the concessionaire responsible for NASA's Guest Services at Kennedy Space Center. You may call them at (407) 449-4444.

Car passes are no longer available for KSC due to the large number of requests by the public. However, there are many off-site viewing locations that offer prime viewing opportunities. You can find more information about these sites on the KSC Website at http://www.ksc.nasa.gov/.

A recorded manifest of anticipated launch dates is available by calling (407) 867-4636. During countdown, a recorded launch status is available at (407) 867-0600. The Future Flight Launch Schedule is also available online at http://spaceflight.nasa.gov/shuttle/future/index.html.

Due to the average cloud cover in the area, shuttle landings are frequently more difficult to see than launches. In addition, there is no viewing area large enough to accommodate the general public. However, any of the off-site viewing locations mentioned on the KSC Website can also be used to see a shuttle landing. ■

Adjustments made to launch dates

The Shuttle and Station programs recently decided to adjust a number of launch dates to accommodate wiring modifications and structural inspections to two orbiters, and to provide the proper spacing between Expedition missions to the ISS. The changes were officially confirmed at a Joint PRCB attended by Shuttle and ISS Program Managers Ron Dittemore and Tommy Holloway. The changes made are:

STS-108 (UF-1)
Moves from 11/19/01 to 11/29/01 (one week after Thanksgiving)

STS-110 (8A)
Moves from 1/17/02 to 2/28/02

STS-111 (UF-2)
Moves from 3/14/02 to 4/18/02

STS-112 (9A)
Was officially baselined for 7/11/02

NASA JSC 2001e15196 photo by James Blair

On May 2, the P3/P4 Space Station Segment Structural Test Article was moved into an upright position for testing in Building 49, at the Vibration and Acoustic Test Facility. The segment was to undergo an acoustic test to demonstrate the ability of the hardware to withstand the acoustic environment produced during the shuttle launch. The ISS P3/P4 space station module consists of the ISS second port truss segment and associated equipment packages. It is being designed and fabricated by Boeing-Huntington Beach (segment P3) and Boeing-Canoga Park (segment P4). It is scheduled to be flown on STS-111 in April 2002 (Payload ISS-12A).

EXPERIMENT CORNER

Expedition Two Science Experiments

For the next several issues, we will list some of the science experiments being performed on the International Space Station.

ADVASC
Advanced Astroculture-Express Rack 1
Dr. Weijia Zhou, University of Wisconsin-Madison
A plant growth experiment that will be used to study the effects of microgravity on the chemical and genetic make-up of a plant in the same family as cabbage and radishes. The seeds will grow into plants whose seeds will be returned to Earth for study. Delivered during STS-100/6A in April 2001. Earlier versions flown on eight previous shuttle missions and on Mir.
More ADVASC Info:
Expedition Two press kit, p. 7

ARIS ICE-Active Rack Isolation System ISS Characterization Exp.-Express Rack 2
Dr. Jim Allen, Boeing, Houston, TX
The Active Rack Isolation System absorbs vibrations that could affect sensitive scientific experiments. Experiments aboard the space station that are sensitive to vibrations will be put in EXPRESS Rack 2. The ARIS ICE portion of this equipment will measure in real-time any vibrations the ARIS equipment experiences during crew exercise, Canadarm2 movements, dockings/undockings, etc. Delivered aboard EXPRESS Rack 2 during STS-100/6A in April 2001. ARIS flew in 1996 aboard the STS-79 mission to Mir.
More ARIS ICE info:
Expedition Two press kit, p. 8

Bonner Ball Neutron Detector-Human Research Facility Rack Tateo Goka, NASDA, Japan
Measures the amount of neutron radiation that enters the space station. Neutron radiation can affect the blood-forming marrow in bones. The data will be used to develop countermeasures to protect astronauts on long duration missions. Delivered during STS-102/5A.1 in March 2001. Flown previously on shuttle.
More Bonner Ball info:
Expedition Two press kit, p. 9
http://spaceflight.nasa.gov/station/science/experiments/bball.html

CEO-Crew Earth Observations-Destiny Lab
Dr. Kamlesh Lulla, NASA JSC, Houston
Photographs taken by the crew, using handheld cameras that are used to record long-term changes on the surface of the Earth. Initiated on station with Expedition One crew in November 2000. Continuing a program that began with the first spaceflights (Mercury) in the early 1960s.
More CEO info:
Expedition Two press kit, p. 10
http://eol.jsc.nasa.gov/

The Expedition Two press kit can be found at:
http://spaceflight.nasa.gov/station/crew/exp2/exp2_presskit.pdf